

On some Phymatidae from the Old and New Worlds (Hem. Heteroptera)

BY

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By the kind offices of Dr. Peter D. Ashlock of the Bernice P. Bishop Museum, Honolulu, Hawaii; Dr. Jacques Carayon of the Museum National d'Histoire Naturelle, Paris; Dr. W. E. China of the British Museum (N. H.), London; Dr. Thomas H. Farr of the Institute of Jamaica, Kingston, Jamaica; Mr. Dennis Leston of the Cocoa Research Institute, Ghana Academy of Science, Tafo, Ghana; and Mr. Eugenio Morales Agacino of the Instituto Español de Entomología, Madrid, to whom I express my sincere thanks, I have had a privilege to study a few Phymatidae from the collections of their respective Institutions.

Among examined specimens, one *Macrocephalus* from Jamaica, and one *Glossopelta* from India, were new and are described else where in this paper. A female of *Agreuocoris nasalis* Maa and Lin, 1959, hitherto unknown, is also described. *Phymata monstrosa* (F.) *griseipennis* Horvath, 1907, is elevated to specific rank. Though closely related to *P. monstrosa* (F.), 1794, it is a distinct species, and may be separated from the latter by smaller, and more slender body; less acute, and lower antero-lateral borders of pronotum; blunt anterior, lateral, and postero-lateral angles of pronotum; blunt and shorter PE-angles of connexiva; and last, but not least, by much shorter antennal segment IV, which in the male is only slightly longer than II and III together (26:20), where as in *P. monstrosa* it is twice as long (37:18).

Carcinocoris erinaceus Handlirsch, 1897, is put again into synonymy of *Carinocoris binghami* Sharp, 1897. Handlirsch himself put his species into synonymy of *C. binghami* (1897:221), the latter being published only one week earlier, and as such had a priority. Both were collected in Burma, and besides Handlirsch could examine it and found them conspecific. Later, Distant separated them (1903:152) on basis of

the shape of scutellum, which has parallel sides in *binghami*, and sinuate in *erinaceus*. But this is a sexual character in *Carcinocoris*: males having sinuate, and females parallel sides of scutellum. I have had now an opportunity to examine 2 males and 2 females from Viet Nam, and found them conspecific, but, in accordance with Distant, the males would belong to *C. erinaceus*, and the females to *C. binghami*.

A similar case is with *Carcinocoris castetsi* Handlirsch, 1897, and *Carcinocoris hamptoni* Distant, 1904. Some years ago, I have received from the British Museum (N. H.) a male specimen of *Carcinocoris castetsi* Handlirsch, which coincided with the description and very good drawing of Handlirsch. Now I have received a female identified, probably by Distant himself, as the label is old, as *C. hamptoni* Distant. They differ in the shape of abdomen, and color, but they are clearly conspecific, as above mentioned characters are sexual, as in most Phymatidae. Distant describing Oriental, or African Phymatidae, never indicated the sex of described specimen, and as differentiating characters mostly used color, so it is no wonder that he took opposite sexes as different species.

In the text were used the followong abbreviations:

The Bernice P. Bishop Museum, Honolulu — B. P. B. M.

The British Museum (N. H.) — B. M.

The Cocoa Research Institute, Tafo, Ghana — C. R. I.

The Instituto Español de Entomología, Madrid — I. E. E.

The Institute of Jamaica, Kingston, Jamaica — I. J.

The Museum National d'Histoire Naturelle, Paris — M. P.

In the description of *Macrocephalus (Lophoscutus) marmoratus* n. sp. 25 units = 1 mm., and in descriptions of *Glossopelta indica* n. sp. and *Agreuocoris nasalis* Maa and Lin, 10 units = 1 mm.

I. Subfam. **THEMONOCORINAE** Car., Using., and Wyg., 1958.

Themonocorinae, the most primitive of all Phymatidae, have so far only one genus with three species. The distribution is rather widespread across Tropical Africa, from Ivory Coast to Congo, and from Central African Republic to Cameroons, and they live, as Dr. J. Carayon told me, in the nests of some small, gregarious spiders, feeding on small insects killed and left by spiders. Neither Themonocorinae, nor spiders, attack each other.

Genus **Themonocoris** Car., Using. and Wyg., 1958.

1. **Themonocoris bambesanus** Car., Using. and Wyg.

Themonocoris bambesanus Car., Using. and Wyg., 1958, Rev. Zool. Bot. Africaines; 57: 269, Fig. 12.

2 ♂♂ & 2 ♀♀, Republique Centro-Africaine, La Maboké — J. Carayon coll., IV-V.1964 (M. P.).

2. **Themonocoris tshicapanus** Car., Using. and Wyg.

Themonocoris tshicapanus Car. Using. and Wyg., 1958, Rev. Zool. Bot. Africaines; 57: 262, Fig. 1.

1 ♂ & 1 ♀, Ghana, Tafo — D. Leston coll., 9.IX.1965 (C. R. I.).

Subfam. **PHYMATINAE** Amyot and Serville, 1843.

Genus **Phymata** Latreille, 1802.

In the Old World *Phymata* has only four species, in the New one about ninety

1. **Phymata monstrosa** (F.).

Acanthia monstrosa F., 1794, Ent. Syst.; 4: 74.

Syrtis monstrosa F., 1803, Syst. Rhyng.; p. 122.

Phymata monstrosa Brullé, 1835, Hist. Nat.; p. 347.

This is predominantly a West Mediterranean species, but it was recorded also from Syria. Now I had an opportunity to examine a lot of about twenty specimens from Spain and Morocco, all from collections of the Instituto Español de Entomología, Madrid.

There are some variations in color, particularly among the males. The males generally are black and creamy white, or yellow; the females brown, or red brown, and creamy yellow, but there are males with the

color of females, red brown and creamy yellow. Some immature males were almost uniformly grey brown. Specimens from Morocco, generally, are slightly larger than those from Spain, but not always.

1 ♂, Spain, Villaviciosa; 1 ♀, Spain, Pozuelo de C. — La Fuente coll.; 1 ♀, Spain, Malagón — La Fuente coll.; 1 ♂, Spain, El Pardo — G. Mercet coll.; 1 ♂, Spain, Prov. Orense, Carballino — G. Varela coll.; 1 ♀, Spain, Prov. Castellón, Segorbe — Moroder coll.; 1 ♂ & 1 ♀, Spain, Málaga — Rosenhauer coll.; 7 ♂ ♂ & 2 ♀ ♀, Morocco, Tánger — M. Escalera coll.; 2 ♀ ♀, Morocco, Mogador — M. Escalera coll.

2. *Phymata griseipennis* Horvath.

Phymata monstrosa (F.) *griseipennis* Horvath, 1907, Ann. Mus. Nat. Hung.; 5: 304.

3 ♂ ♂ & 1 ♀, Tunisie, Environs de Mactar — De Vauloger coll., from the collection of A. L. Montandon (M. P.).

Genus *Neoanthylla* Kormilev, 1951.

This Neotropical genus has three species distributed in Brazil and Perú. All species are extremely rare.

1. *Neoanthylla peruviana* Kormilev.

Neoanthylla peruviana Kormilev, 1964, Proc. Ent. Soc. Washington; 66: 138.

1 ♂ & 1 ♀, Brazil, Goyaz (M. P.).

Subfam. **MACROCEPHALINAE** Amyot and Serville, 1843.

Genus *Macrocephalus* Swederus, 1787.

Subgenus **Lophoscutus** Kormilev, 1951.1. **Macrocephalus (Lophoscutus) gracilis** Handlirsch.

Macrocephalus gracilis Handlirsch, 1897, Ann. Naturh. Hofmus. Wien; 12: 193, Tab. IX, fig. 32.

2 ♂♂, Brazil, Bahia, San Antonio de Barro — Gounelle coll. 11. XII.1888 (M. P.).

This species Handlirsch described on the base of a single specimen from the collection of M. Noualhier, which had a label: "Amerique du Nord", what I think is an error, the species is more likely to be Neotropical, and was never since found in the North America. Two specimens from Bahia confirm it.

2. **Macrocephalus (Lophoscutus) marmoratus** sp. nov.

Male. Elongate ovate; with dispersed, fine white granulation; scutellum mottled with white on apical half, white color interrupted with redbrown, transverse band.

Head subcylindrical, truncate in front and behind, longer than width through the eyes (27:18). Preocular portion is shorter than postocular (7:11), slightly widening from the eyes toward the tip; postocular with parallel sides. Eyes large, semiglobose, protruding. Ocelli dorso-lateral in position, clearly visible from above, placed nearer to the eyes than to hind border of the head (2.5:7). Genae form two flaps, rounded anteriorly; the upper one is larger than the lower one. Antennae long and strong, more than twice as long as the head (60:27); proportions of antennal segments, I to IV, are: 19:9:14:18. Rostrum strong, reaches to the middle of prosternum; proportions of rostral segments (visibles), from I to III, are: 15:10:6.

Pronotum subhexagonal, shorter than maximal width across lateral angles (33:47). Anterior border strongly sinuate; anterior angles acute, directed forward; antero-lateral-anterior borders straight, granulate, diverging backward. Lateral notch angular, form an obtuse angle. Antero-lateral-posterior borders also straight, strongly diverging and raising backward. Lateral angles blunt, form a slightly obtuse angle. Postero-lateral borders sinuate in the middle, convex laterally. Pos-

terior border convex, rounded. Fore disc convex, sparsely granulate; interlobal depression sharply marked; hind disc three times depressed: medially, and along humeri. Carinae thin, and low, parallel anteriorly, divergent and evanescent posteriorly; finely granulate.

Scutellum tongue-shaped, much longer than maximal width (89:

40), narrowed at the base, and widening on the apical half; ratio between the minimal and maximal width is as 26:40. Disc finely punctured, and with a scarce, fine granulation. The tip of scutellum projects slightly over the tip of abdomen. Median carina thin, and rather high, tapering toward the tip.

Hemelytra narrower, and shorter than abdomen; corium seen laterad of scutellum from its base to the middle of connexivum VI, covered with scarce, white granulation.

Abdomen narrowly cordate, longer than its maximal width (79:58), Connexivum narrow; PE-angles of connexiva barely protruding, angular. Venter strongly convex; sterna II to VI with a thin, median carina; VII with thicker median carina. Hypopygium strongly convex, forming a strong, median ridge toward the tip.

Legs: Fore femora subtriangular, convex on outside, concave on inside, longer than maximal width (35:18).

Color: red to brown, with white granulation; lateral notch of pronotum, baso-lateral borders of corium, and baso-lateral borders of connexiva VI and VII, are white, or whitish. Scutellum mottled with white, with exception of the base of median carina, and wide, irregularly limited, brown, transverse band on the apical half.

Total length 5.6 mm.; width of pronotum 1.88 mm.; width of abdomen 2.36 mm.

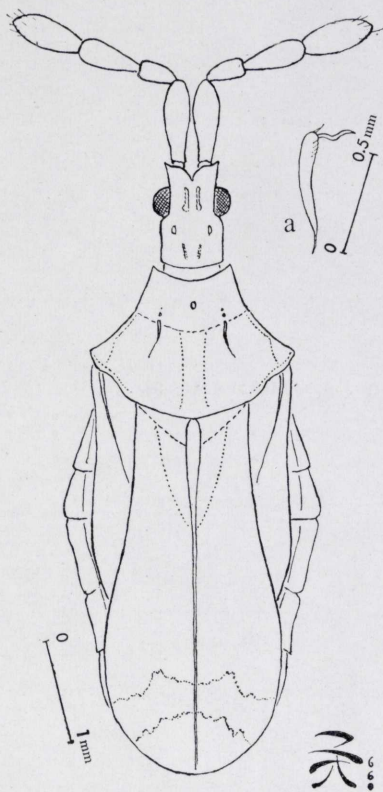


Fig. 1.—*Macrocephalus* (*Lophoscuteus*) *marmoratus* sp. nov., ♂; a, right paramere, dorsal aspect.

Holotype: ♂, Jamaica, Portland, Hardwar Gap — T. H. Farr coll. 16.VIII.1964; deposited in the Institute of Jamaica, Kingston, Jamaica.

Macrocephalus (Lophoscutus) marmoratus n. sp. is related to *Macrocephalus (Lophoscutus) granulatus* Champion, 1898, from which it may be easily separated by: smaller size; scutellum more narrowed at the base, and more widened on apical half, ratio between minimal and maximal width being 26:40, where as in *granulatus* it is only 40:55; by color, particularly mottled with white scutellum.

Lophoscutus was proposed by me as a subgenus of *Macrocephalus* Swederus, 1787 (1951:101) on the base of a linear scutellar median carina, and simple type of parameres (bent simple trunk), where as in *Macrocephalus* s. str. I have left species with a spearhead-shaped scutellar median carina, and parameres with a bifurcate lateral branch placed subapically, not apically, on the main trunk. At that time I could examine only two species belonging to *Lophoscutus*: *M. affinis* Guérin, 1843, and *M. wygodzinskyi* Kormilev, 1949, of these *M. affinis* is rather aberrant, with a roof-like median carina on the scutellum. Later, Maa and Lin (1956:116) proposed to raise *Lophoscutus* to the generic rank. In principle, I concur with this proposition, as all other species with a linear scutellar carina, which I could examine, have a simple type of parameres, but there are species, which I could not yet examine, as i.e. *Macrocephalus rugosipes* (Guérin), 1857, or such a bizarre species as *Macrocephalus productus* Barber, 1939, which systematic position cannot be fixed without examination of parameres, and which could give us more data about two subgenera. So I prefer to consider *Lophoscutus*, temporarily, as a subgenus.

Genus *Amblythyreus* Westwood, 1843.

1. *Amblythyreus angustus* Westwood.

Macrocephallus (Amblythyreus) angustus Westwood, 1843, Trans. Ent. Soc. London; 3: 31.

Amblythyreus angustus Handlirsch, 1897, Ann. Naturh. Hofmus. Wien; 12: 212, Fig. 29.

1 ♂ & 3 ♀ ♀, Tonkin N., Rég. d'Ha- Giang, Siebens Oliven — (M. P.).

Genus *Agreuocoris* Handlirsch, 1897.

The single mutilated specimen on base of which Handlirsch has established this genus had a label "Mexique", but Handlirsch doubted if it could be Neotropical, as all characters pointed on its Oriental origin. In 1922 Dudich described the second species from W. Himalayas, and in 1959 Maa and Lin described the thrid from India, so that now there is not doubt about its Oriental origin.

1. *Agreuocoris nasalis* Maa and Lin.

Agreuocoris nasalis Man and Lin, 1959, Pacific Insects; 1: 318. Fig. 2.

Female. Body a little sturdier than that of a male, antennae are shorter, particularly antennal segment IV. Head, pronotum and scutellum similar to those of a male; abdomen a little more rounded laterally, with postero-lateral borders very slightly convex, very slightly sinuate in the male. The most contrasting is the color: head, antennae, pronotum, scutellum, and hemelytra, are black in the male, with exception of a U-shaped spot on postocular portion of the head, antero-lateral borders of pronotum, and postero-lateral border of corium, which are brown, or yellow brown. In the female the head is yellow brown, with orange yellow antennae; pronotum is reddish brown on the hind disc, and orange yellow on the fore disc; antero-lateral-posterior borders yellow anteriorly. Scutellum red brown, yellow brown anteriorly, with brown punctures. Hemelytra brown, with orange yellow postero-lateral borders of corium. Abdomen and legs, in both sexes, are orange yellow.

Measurements: head ♂ -20: 10, ♀ -19: 10; antennae ♂ -7: 1.5: 3.25: 10.5, ♀ -7: 3.5: 3: 7.5; pronotum across postero-lateral angles (maximal width) ♂ -26: 38, ♀ -27.5: 42.5; scutellum ♂ -47: 20, ♀ -54: 23; abdomen ♂ -53: 49, ♀ -60: 55.

Total length: ♂ -9.8 mm., ♀ -10.6 mm.; width of pronotum: ♂ -3.8 mm., ♀ -4.25 mm.; width of abdomen: ♂ -4.9 mm., ♀ -5.5 mm.

Allotype: ♀, U. P. India, Ranikhet — J. M. Newell coll. 1949; deposited in the Bernice P. Bishop Museum, Honolulu, Hawaii.

Genus **Glossopelta** Handlirsch, 1897.1. **Glossopelta acuta** Handlirsch.

Glossopelta acuta Handlirsch, 1897, Ann. Naturh. Hofmus. Wien; **12**: 216, Fig. 31, Tab. VI, Fig. 4, Tab. IX, Figs. 55, 56, 65.

3 ♀ ♀, Viet Nam, Dalat, 6 km S., 1400-1500 m. -N. R. Spencer coll. 9.VI - 7.VII.1960 (B. P. B. M.).

2. **Glossopelta indica** sp. nov.

Female. Elongate, with cordate abdomen; roughly punctured on the hind disc of pronotum, finely on scutellum.

Head cylindrical, much longer than width through the eyes (25: 11); preocular portion of the head subequal to postocular, both with parallel sides; ocelli placed slightly nearer to hind border of the head, than to the eyes. Vertex with a thin median line. Eyes moderately convex. Bucculae short, reaching posteriorly to hind border of the eyes. Antennal excavations deep, smooth, bordered from outside and behind with rough, white granules. Antennae short, and slender; antennal segment I pointed apically, by 1/3 of its length produced over the base of II; II and III slightly widening toward the tip; IV fusiform. Proportions, I to IV, are: 8: 5.5: 5: 10. Rostrum strong, proportions of rostral segments (visibles), I to III, are: 10: 5.5: 3.

Pronotum shorter on median line than maximal width (across lateral angles) (31: 38); fore disc half as long as hind disc (11: 20); anterior border deeply sinuate, and granulate laterally; anterior angles form an acute angle, with blunt tip; lateral borders barely sinuate, and divergent backward, provided with a row of semiobliterated, rough granules. Fore disc almost without granulation. Antero-lateral borders of hind disc firstly deeply sinuate, then convex, granulate, and raising, forming together with postero-lateral borders large lobes inclined about 45° to horizontal level. Lateral angles form almost a right angle, with blunt tip; postero-lateral angles small, directed sideways; postero-lateral-anterior borders straight, and granulate; postero-lateral-posterior borders sinuate, granulate; posterior angles blunt, with two larger granules;

posterior-border convex, rounded in the middle, without granulation.

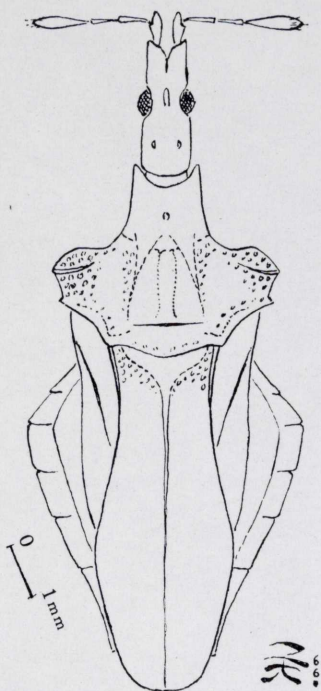


Fig. 2.—*Glossopelta indica*
sp. nov., ♀.

Hind disc, with exception of median line, is roughly punctured. Carenae subparallel, robust at the base, but soon evanescent. Median line widely depressed from the fore border of hind disc to $3/4$ of its length where it is truncate by a thin, transverse carina.

Scutellum tongue-shaped, more than twice as long as its maximal width (62:25), reaches to the tip of abdomen. Lateral borders deeply sinuate at $1/4$ of their length, widely convex, rounded behind the sinus; proportions between basal, minimal, and maximal width, are 22.5:18:25. Lateral borders of basal portion are smooth, without punctures, but with a few, widely spaced granules, evanescent on hind half of the scutellum. Disc with a few, rough punctures at baso-lateral angles; very finely and densely punctured on the rest of disc.

Abdomen cordate, longer than maximal width at PE-III (60:47.5). Connexivum indistinctly separated from tergal plate at connexiva II and III, separated by a fine sulcus at connexiva IV to VII. Discs of connexiva, and the visible portions of tethga, with almost obliterated, sparse granulation. PE-angles of connexiva slightly protruding; exterior borders of connexiva almost straight.

Propleura roughly granulate on the fore lobe, roughly punctured on the hind lobe; meso and metapleura with a few rough granules at their fore borders.

Venter with sparse, rough granulation; tip roundly cut out.

Legs: fore femora elongate, swollen on upper side, much longer than their maximal width (without tooth) (22.5:8). Disc smooth. Middle and hind tibiae rather robust, slightly shorter than corresponding femora.

Color: stramineous; raised lateral lobes of pronotum brown; basal portion of corium reddish brown; apical portion of corium, and scutellum, dirty whitish. On other two specimens (paratypes) two (1 + 1)

longitudinal bands along pronotal carinae, and two (1 + 1) other along scutellar carina, are brown; the latter is pale brown.

Total length 11.7 mm.; width of pronotum 3.8 mm.; width of abdomen 4.75 mm.

Holotype: ♀, India, Nurbong Bw, Darjeeling, 2050 ft — H. Stevens coll. -14; deposited in the British Museum (N. H.), London.

Paratypes: 2 ♀ ♀, without locality label, only with indication "June 1918", and "5 Oct. 1918" respectively.

Glossopelta indica n. sp. is related to *G. acuta* Handlirsch, 1897, from which it may be separated by: antennal segment I is blunt apically, not so acute; the head is more robust; the raised lateral angles of the pronotum are lower and wider, forming a right angle (acute in *G. acuta*); PE-VII is less protruding; and by color.

It is also related to *G. praerupta* Maa and Lin, 1956, from which it differs by: larger size; cylindrical head with parallel sides (converging forward and backward in *G. praerupta*); lateral angles of pronotum more robust and less pointed; and by color.

Subfam. **CARCINOCORINAE** Handlirsch, 1897.

Genus **Carcinocoris** Handlirsch, 1897.

1. **Carcinocoris binghami** Sharp.

Carcinochelis binghami Sharp, 1897, Ent. Monthly Mag.; **33**: 35.

Carcinocoris erinaceus Handlirsch, 1897, Verh. zool.-bot. Ges. Wien, **47**: 26.

Carcinocoris binghami Handlirsch, 1897, Ann. Naturh. Hofmus. Wien; **12**: 221, Tab. VI, Fig. 2, Tab. IX, Figs. 61 & 62.

Carcinocoris binghami Distant, 1902, Ann. Mag. Nat. Hist.; (7) **9**: 357.

Carcinocoris erinaceus Distant, 1903, Fauna Brit. India, Rhynch.; **2**: 152.

New synonymy.

1 ♂ & 2 ♀ ♀, Viet Nam, Dalat, 6 km S., 1400-1500 m. — N. R. Spencer coll. 9.VI-7.VII.1961, and 1 ♂, Viet Nam, Fyan, 900-1000 m. — N. R. Spencer coll., 11.VII-9.VIII.1961 (B. P. B. M.).

2. *Carcinocoris castetsi* Handlirsch.

Carcinocoris castetsi Handlirsch, 1897, Verh. zool.-bot. Ges. Wien; **47**: 26.

Carcinocoris hampsoni Distant, 1902, Ann. Mag. Nat. Hist. (7); **9**: 357.
New synonymy.

1 ♂, S. India, Kodal, 4000 ft. T. V. Campbell coll., identified by somebody in the British Museum as *C. hampsoni*, but it is *C. castetsi*.
1 ♀, without locality label, but with a label "*Carcinocoris hampsoni* Dist.", but it is also *C. castetsi*. (*)

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(*) Dr. W. E. China at my request has examined the type of *Carcinocoris hampsoni* Distant, and confirmed that it is a female, and consequentially should go into synonymy of *C. castetsi* Handlirsch.